Reliability Evaluation of Web Applications from Click-stream Data

Abstract

In the age of information and communication technology (ICT), Web and internet have brought significant changes in information technology. The dramatic change in website development and their relative usage has led to the need of Web based metrics. These metrics will accurately assess the efforts in the web based applications. So the basic idea is to identify the web metrics for evaluating reliability and maintainability of Hypermedia applications where we characterize usage and problems for web applications, evaluate their reliability and also the potential aspects for reliability assessment and improvement. Based on the characteristics of web applications and the overall web environment, we classify web problems and focus on the subset of source content problems. Using information about web accesses, we drive various measurements that can characterize web site workload at different levels of granularity. These workload measurements, together with failure information extracted from recorded errors are
used to evaluate the operational reliability for source events at a given website and the potential for reliability improvement. As a result, to support this strategy or methodology we extract web usage and failure information from existing web logs. This failure information is used to measure the reliability of web applications. Hence these results obtained from the web based metrics can help us analytically identically identify the effort assessment and failure points in web based systems and make evaluation of reliability of these systems simple.

The rest of the paper is organized as follows: Section 2 analyzes the general characteristics of the Web and its reliability problems. Section 3 examines the contents of Web logs and their use in evaluating Web site workload and Web software reliability. Conclusions and perspectives are presented in Section 4.

Reference

- E. Nelson, “Estimating Software Reliability from Test Data,” Microelectronics and
Reliability Evaluation of Web Applications from Click-stream Data


Index Terms

Computer Science
Information Science

Key words

Reliability Evaluation (ICT) Hypermedia applications